Association of clopidogrel treatment with risk of mortality and cardiovascular events following myocardial infarction in patients with and without diabetes.

https://arctichealth.org/en/permalink/ahliterature121005

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Source: JAMA. 2012 Sep 5;308(9):882-9
Date: Sep-5-2012
Language: English
Publication Type: Article
Keywords: Aged
Aged, 80 and over
Cardiovascular Diseases - mortality
Case-Control Studies
Data Collection
Denmark
Diabetes Mellitus - epidemiology
Female
Humans
Male
Middle Aged
Mortality - trends
Myocardial Infarction - drug therapy - physiopathology
Platelet Activation
Platelet Aggregation Inhibitors - therapeutic use
Registries - statistics & numerical data
Risk
Ticlopidine - analogs & derivatives - therapeutic use

Abstract:

Pharmacodynamic studies have shown that persistently high platelet reactivity is common in patients with diabetes in spite of clopidogrel treatment. Clinical trials have not convincingly demonstrated that clopidogrel benefits patients with diabetes as much patients without diabetes.

To estimate the clinical effectiveness associated with clopidogrel treatment after myocardial infarction (MI) in patients with diabetes.

By individual-level linkage of the Danish nationwide administrative registries between 2002-2009, patients who were hospitalized with incident MI and who had survived and not undergone coronary artery bypass surgery 30 days after discharge were followed up for as long as 1 year (maximally until December 31, 2009). Adjusted for age, sex, comorbidity, calendar year, concomitant pharmacotherapy, and invasive interventions, hazard ratios that were associated with clopidogrel in patients with and without diabetes were analyzed by Cox proportional-hazard models and propensity score-matched models.

All-cause mortality, cardiovascular mortality, and a composite end point of recurrent MI and all-cause mortality.

Of the 58,851 patients included in the study, 7247 (12%) had diabetes and 35,380 (60%) received clopidogrel. In total, 1790 patients (25%) with diabetes and 7931 patients (15%) without diabetes met the composite end point. Of these, 1225 (17%) with and 5377 (10%) without diabetes died. In total, 978 patients (80%) with and 4100 patients (76%) without diabetes died of events of cardiovascular origin. For patients with diabetes who were treated with clopidogrel, the unadjusted mortality rates (events/100 person-years) were 13.4 (95% CI, 12.8-14.0) vs 29.3 (95% CI, 28.3-30.4) for those not treated. For patients without diabetes who were treated with clopidogrel, the unadjusted mortality rates were 6.4 (95% CI, 6.3-6.6) vs 21.3 (95% CI, 21.0-21.7) for those not treated. However, among patients with diabetes vs those without diabetes, clopidogrel was associated with less effectiveness for all-cause mortality (HR, 0.89 [95% CI, 0.79-1.00] vs 0.75 [95% CI, 0.70-0.80]; P for interaction, .001) and for cardiovascular mortality (HR, 0.93 [95% CI, 0.81-1.06] vs 0.77 [95% CI, 0.72-0.83]; P for interaction, .01) but not for the composite end point (HR, 1.00 [95% CI, 0.91-1.10] vs 0.91 [95% CI, 0.87-0.96]; P for interaction, .08). Propensity score-matched models gave similar results.

Among patients with diabetes compared with patients without diabetes, the use of conventional clopidogrel treatment after MI was associated with lower reduction in the risk of all-cause death and cardiovascular death.

Notes:

Comment In: JAMA. 2012 Sep 5;308(9):921-222948703

Comment In: JAMA. 2012 Dec 19;308(23):2456; author reply 245723288024

Comment In: JAMA. 2012 Dec 19;308(23):245723288044

PubMed ID:

22948698 View in PubMed